Exhibit B

•Copy of the Official Action of February 23, 2007

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,006	10/07/2003	Frederick Kaplan	282736US8X	4722

22850 7590 02/23/2007

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EXAMINER	
LIEW, ALEX KOK SOON	
ART UNIT	**PAPER NUMBER**
2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/23/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/23/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/680,006	KAPLAN, FREDERICK	
	Examiner	Art Unit	
	Alex Liew	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6-16* is/are rejected.

7)☒ Claim(s) *5-7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 6 and 7 are objected to because of the following informalities: The delta equation in claim 6 is written incorrectly. The examiner ask the applicant to correct the equation to be consistent to what is disclosed in the specification shown on page 8 line 4. Appropriate correction is required.

2. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With regards to claim 5, the examiner cannot find applicable prior art and / or suggestions disclosing a process of static pattern recognition and production of static patches is initiated at the same time as the process of dynamic movement recognition and production of dynamic patches and when stable sets of active dynamic patches representing a characterization of a reoccurring movement have been detected, the process of static pattern recognition is continued *exclusively* with static patches which are located in a restricted area of the image which is centered on said identified movement center in combination with claims 1 and 2.

Relevant art

Kato (US pat no 4,633,506) discloses a changed original image is divided into a predetermined number of picture image units and the divisions of the changed original document are compared with the pictured image unit so that only the parts of the original document having changed contents are stored as new picture image units in the picture image storing section (see col. 3 lines 11 – 25).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 and 12 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (US pat no 6,681,031) in view of Dobashi (US pat no 2002/0126880).

With regards to claim 1, Cohen discloses an adaptive artificial vision comprising the following steps

defining successive couples of synchronized timesteps such that the time difference between two synchronized timesteps of a couple of synchronized timesteps is equal to a predetermined time delay (see fig 29 – image 1 and image 2 are two consecutive images taken using graphical user interface shown in fig 28 – the images taken are at a constant frames per second),

comparing two successive images at each couple of synchronized timesteps spaced by said predetermined time delay for obtaining a delta image which is the result of the computation of the distance between each pixel of said two successive images in view of characterizing movements of objects between said two successive images (see figure 29 – image 2 minus image 1),

extracting features from said delta image for obtaining a potential dynamic patch which is compared with dynamic patches previously recorded in a first repertory (see fig 3 – identification module identifies the type of gesture create, the type of gestures are divided in different bins shown in col. 21 lines 33 – 40),

selecting the closest dynamic patch in first repertory (in the identification process a closest gesture in the reference bins will be select if there is none then no gesture is identified, col. 21 lines 54 – 64) and

temporally detect and store stable sets of active dynamic patches representing a characterization of a reoccurring movement or event which is observed (images are taken at constant frames per second and being identified, the images must of stable for proper identification, examples of gestures being identifies are shown in figures 7 – 13). Cohen does not disclose if there is no sufficient dynamic patch, which matches the patches in the reference databases then add the unknown and new patch to the database. However, Dobashi takes the extra step of adding current data to the reference if the current data does not match the current templates in the reference database (see fig 8 – ST28 and ST29). Cohen takes consecutive images to identify the movement of the human body and Dobashi take images of a person to identify the

person, both having to perform pattern recognition using a reference database. One skill in the art would add new dynamic patches to the reference database because the new patches maybe are new patches which defines a set of new movements, which can be use future gesture identification, keeping the tracking system updated / current.

With regards to claim 12, Cohen discloses a method according to claim 1, wherein successive steps of synchronized timesteps are separated by a period of time, which is equal to n times the predetermined time delay, where n is an integer which is positive or equal to zero (when n is equal to zero, which is the preferred value of n in the claimed invention, page 7 lines 16 – 19, it would be the constant frames per second disclosed in claimed 1).

With regards to claim 13, Cohen discloses a method according to claim 1, wherein successive couples of synchronized timesteps are contiguous without any time interruption between two successive couples of synchronized timesteps (the system in Cohen images consecutive images without any interruption).

With regards to claim 14, Cohen discloses a method according to claim 1, wherein it further comprises the step of detecting transition between stables sets of active dynamic patches representing a characterization of reoccurring movements and of constructing transition graphs for predicting complex events comprising a sequence of identified

movements (see fig 4 and col. 6 lines 5 – 9 – the graphs shown in are transition of sequence of images which determines circular gesture movements).

3. Claims 2 – 4, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (US pat no 6,681,031) in view of Dobashi (US pat no 2002/0126880) as applied to claim 1 further in view of Bongiovanni (US pub no 2005/0041102).

With regards to claim 2, Cohen discloses a method of according to claim 1, wherein when stable sets of active dynamic patches representing a characterization of a reoccurring movement have been detected (see fig 8 – the user move in a circular pattern, more than one round, which becomes reoccurring – the movement model are shown in fig 5) and static patterns patches (fig 8 – the patch is the hand of the person performing the circular pattern in the image) which are at a predetermined distance, d, from the movement center (the distance, d, is the distance from the perimeter of the circular movement to the center of the circular movement), but does not disclose static pattern recognition at a given time step. However, Bongiovanni discloses static pattern recognition are analyzed at a given time step (see paragraph 33). It is a matter of choice whether one would chose to store result data and / or programs in a first, second, third, etc repertory, as long as it is stored in a form of computer storage medium the function disclosed in claim 2 can be perform. One skill in the art would static image pattern recognition to track an object is because to determine the boundary of the object to

measure its dimensions and obtain a better difference image, with less fuzzy boundary, improving tracking of the object.

With regards to claim 3, Cohen discloses a method according to claim 2, wherein stored static patches of the second repertory are spatially integrated in order to detect and store stable sets of active static patches representing a characterization of an object which is recurrently involved in observed known reoccurring movements (shown in fig 8 – as discussed in claim 7 the person's hand form patches as it moves in circular motion which forms reoccurring movements – the system must first identifies the location of the hand where in this case the hand is read as an area patch, inherently there are a shapes of the hand in a reference database which describes different gestures, those different hand shapes in the system are read as 'static patches representing a characterization of an object').

With regards to claim 4, Cohen combined with Dobashi and Bongiovanni disclose a method of claim 2, wherein the process of static pattern recognition and production of static patches is initiated after stable sets of active dynamic patches representing a characterization of a reoccurring movements (as discussed in claim 1, the system needs stable sets of dynamic patches in order to recognizes gestures, the 'production of static patches' starts right at the beginning when the system starts taking images / frames of the person performing gestures). Motivation provided in claims 1 and 2.

With regards to claim 10, see arguments, motivation and rejection of claim 2. The salient points are the locations of the hand in circular motion shown in fig 8 of Cohen; the hand section of the image is read as the 'region'. Bongiovanni teaches choosing / analyzing a still image from a series of consecutive frames (see paragraph 33).

With regards to claim 15, see the rationale and rejection for claims 1 and 2.

With regards to claim 16, see the rationale and rejection for claim 2.

4. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (US pat no 6,681,031) in view of Dobashi (US pat no 2002/0126880) as applied to claim 1 further in view of Banh (US pat no 5,150,426).

With regards to claim 6, Cohen discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose using a threshold function on the difference image. Banh discloses a step of thresholding a difference image (see col. 1 lines 52 – 55) to detect a moving object. One skill in the art would threshold a difference image because to locate the object in the difference from the background image, improving object moving detection.

With regards to claim 7, see the rationale and rejection for claim 6.

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen (US pat no 6,681,031) in view of Dobashi (US pat no 2002/0126880) as applied to claim 1 further in view of Kim (US pat no 6,999,604).

With regards to claim 8, Cohen discloses all of the claim elements / features as discussed above in rejection for claim 1 and incorporated herein by reference, but fails to disclose computing Gaussian color model of the distribution for each color component. Kim discloses a step of extracting features from the delta image comprises computing a Gaussian color model of the distribution for each color component (see fig 1 – 100, shown more detail in fig 2, and 200 – GFCD color transform, col. 3 lines 31 – 48 – each of the color components in fig 2 are normalized then transformed in 200 of fig 1). One skill in the art would include transforming one color coordinate to another is because another color coordinate will have flexibility to adjust the brightness or darkness (for example from RGB to Hue-saturation-brightness – one can control the brightness of an image if color coordinate are in Hue-saturation-brightness color coordinate system), improving image quality while performing gesture recognition.

With regards to claim 9, see the rationale and rejection for claim 8.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cohen ('031) in view of Dobashi ('880) and Bongiovanni (US pub no 2005/0041102) as applied to claim 10 further in view of Kim ('604).

With regards to claim 11, see the rationale and rejection for claims 8 and 9. The change of color refers to detecting an edge of the object, which is included in Cohen during gesture detection process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Liew whose telephone number is (571)272-8623. The examiner can normally be reached on 9:30AM - 7:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Mancuso can be reached on (571)272-7695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex Liew
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2/15/07